

SUMMARY OF PACIFIC NORTHWEST REGIONAL LOADS AND RESOURCES
 UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS		1998 WHITE BOOK: 12/31/98									
OPERATING YEAR		RUN DATE: 12/31/98									
		1999- 0	2000- 1	2001- 2	2002- 3	2003- 4	2004- 5	2005- 6	2006- 7	2007- 8	2008- 9
MEGAWATTS		AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
FIRM LOADS											
1	SYSTEM FIRM LOADS 1/	21732	21839	21924	22056	22200	22360	22479	22644	22843	23017
2	EXPORTS 3/	1959	1992	2046	1969	1879	1636	1453	1390	1262	1148
3	FED DIVERSITY 4/	0	0	0	0	0	0	0	0	0	0
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4	FIRM LOADS	23691	23831	23969	24024	24080	23996	23932	24034	24105	24165
NON-FIRM LOADS											
5	REGIONAL NON-FIRM LOADS 2/	0	0	0	0	0	0	0	0	0	0
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	TOTAL LOADS	23691	23831	23969	24024	24080	23996	23932	24034	24105	24165
HYDRO RESOURCES											
7	REGULATED HYDRO 5/	10748	10747	10757	10764	10772	10779	10787	10794	10802	10805
8	INDEPENDENT HYDRO 6/	1105	1104	1108	1108	1109	1108	1108	1108	1108	1109
9	SUS. PKNG. ADJUSTMENT 7/	0	0	0	0	0	0	0	0	0	0
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	TOTAL HYDRO	11853	11852	11865	11873	11880	11887	11895	11903	11910	11914
OTHER RESOURCES											
11	SMALL THERMAL & MISC 8/	78	77	73	73	73	73	73	73	74	74
12	COMBUSTION TURBINES 9/	754	754	750	752	753	749	752	753	749	752
13	RENEWABLES 10/	76	76	76	76	76	76	76	76	76	76
14	COGENERATION 11/	675	675	675	675	675	654	639	639	639	639
15	IMPORTS 12/	1714	1685	1564	1583	1531	1321	1324	1328	1229	1228
16	CENTRALIA	1204	1204	1204	1203	1180	1180	1204	1204	1204	1204
17	JIM BRIDGER	605	606	611	612	597	606	600	605	607	611
18	COLSTRIP 1 & 2	385	384	376	376	376	376	376	376	377	377
19	BOARDMAN	385	385	385	385	385	385	385	385	385	385
20	VALMY	195	195	195	195	195	195	195	195	195	195
21	COLSTRIP 3	546	544	539	539	539	539	539	539	539	540
22	WNP 2	885	875	1000	875	1000	875	1000	875	1000	875
23	COLSTRIP 4	661	661	661	661	661	661	661	661	661	661
24	FED RESOURCE ACQUIS 13/	0	0	0	0	0	0	0	0	0	0
25	NON-UTILITY GENERATION 14/	1056	1063	1030	1028	1035	1033	1024	1022	1022	1022
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
26	TOTAL RESOURCES	21072	21036	21005	20906	20958	20610	20742	20633	20665	20551

SUMMARY OF PACIFIC NORTHWEST REGIONAL LOADS AND RESOURCES
 UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS		1998 WHITE BOOK: 12/31/98									
OPERATING YEAR		RUN DATE: 12/31/98									
MEGAWATTS	1999- 0	2000- 1	2001- 2	2002- 3	2003- 4	2004- 5	2005- 6	2006- 7	2007- 8	2008- 9	
	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
RESERVES & MAINTENANCE											
27 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	0
28 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	0
29 BPA SPINNING RESERVES 17/	0	0	0	0	0	0	0	0	0	0	0
30 HYDRO MAINTENANCE 18/	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12
31 NET RESOURCES	21060	21024	20992	20893	20946	20597	20729	20621	20653	20539	
SURPLUS/DEFICITS											
32 FIRM SURPLUS/DEFICIT	-2631	-2807	-2977	-3131	-3134	-3399	-3202	-3413	-3452	-3626	
33 TOTAL SURPLUS/DEFICIT	-2631	-2807	-2977	-3131	-3134	-3399	-3202	-3413	-3452	-3626	
34 EXTREME WEATHER ADJ. 19/	0	0	0	0	0	0	0	0	0	0	
35 FIRM S/D W/EXT WEATHER ADJ.	-2631	-2807	-2977	-3131	-3134	-3399	-3202	-3413	-3452	-3626	
36 TOTAL S/D W/EXT WTHR. ADJ.	-2631	-2807	-2977	-3131	-3134	-3399	-3202	-3413	-3452	-3626	

REGIONAL FOOTNOTES

Regional Table 1

1. Firm loads for the region include the sum of the estimated firm loads of Federal agencies, public agencies, direct service industries (DSIs), investor-owned utilities (IOUs), and associated transmission losses. Peak loads represent non-coincidental capacity demands adjusted to account for Federal system diversity; they are based on the prediction of normal weather and have a 50-percent chance of being exceeded.
2. Total loads for the region include system firm loads plus Utah Power Company's interruptible load.
3. Regional exports include: BPA to Anaheim, capacity/energy exchange and capacity sale; BPA to Azusa, power exchange and capacity sale; BPA to Banning, power exchange and capacity sale; BPA to BART, power sale; BPA to Burbank, power sale and capacity/energy exchange; BPA to Colton, power exchange and capacity sale; BPA to Farmington, power sale; BPA to Federal agencies, power sale; BPA to Glendale, power sale and capacity/energy exchange; BPA to M-S-R, power sale; BPA to other entities, power sales; BPA to Palo Alto, capacity sale and seasonal energy; BPA to Pasadena, power sale, capacity/energy exchange and seasonal energy exchange; BPA to Riverside, capacity/energy exchange, capacity sale and diversity exchange; BPA to SCE, power sale, capacity/energy exchange, environmental storage, and option capacity; BPA to SCE Source, power sale; BPA to BC Hydro for Canadian Entitlement; and BPA's Northwest-Southwest Intertie losses; AVC to Modesto, power sale; AVC to West Kootenai, capacity sale; city of Idaho Falls to UPC for Gem State, IPC to Sierra Pacific, power sale and for Harney and Wells; IPC to UAMPS, power sale; IPC to the city of Washington, Utah, power sale; IPC to Truckee/Donner, power sale; PP&L to CDWR, power sale; PP&L to PP&L (Northern California), transfer to PP&L's Northern California load; PP&L to Redding, power sale; PP&L to SMUD, power sale; PP&L to SCE, power sale; PP&L to WAPA, power sale; PGE to Glendale, power sale and seasonal power exchange; PSE to PG&E, seasonal power exchange; SCL to NCPA, seasonal power exchange; Snohomish County PUD to SMUD, power sale; and TPU to WAPA, power sale.

Also included in exports are resources purchased by utilities outside the region. These include Longview Fibre to WAPA; 14.8 percent of the Boardman coal plant sold to San Diego Gas and Electric; and 10.2 percent of the Boardman coal plant sold to the city of Turlock, CA.

This analysis assumes that BPA's power sales and capacity/energy exchange agreements with the cities of Burbank, Glendale, Pasadena, Modesto, Santa Clara and Redding, and with SCE are in power sales mode throughout the study period.

4. Federal diversity is a percentage reduction applied to the Federal system non-coincidental peak utility allocation requirements. This is because all peaking electrical loads do not occur simultaneously throughout the region.
5. Regulated hydro includes those hydro dams where the firm energy generation of the dam is affected by the release of stored water from upstream reservoirs. Regulated hydro generation is determined by completing a hydro regulation study of the Pacific Northwest hydro system.
6. Independent hydro includes those hydro dams where no reservoirs exist upstream to release stored water and the firm energy is based on fixed historical flows. Hydro independents are not changed as a part of the hydro regulation study.
7. Sustained peaking adjustment is a percentage reduction applied to the Federal hydro system to meet a capacity load of 50 hours per week. This adjustment also includes reductions for Federal hydro maintenance, spinning reserves, forced outage reserves, and summer flow augmentation on the Lower Snake River and John Day hydro projects.
8. Small thermal and miscellaneous resources include: IPC: Energy Management Systems; MPC: regional Bird and Corette; PGE: Summit 1 and 2; PSE: Crystal Mountain and Shuffleton; SCL: Boundary; and TPU: Steam Plant 2.
9. Combustion turbines include: Clark: River Road (Cogentrix); IPC: Wood River; PGE: Bethel and Beaver; PSE: Whidbey Island, Whitehorn, Fredrickson, and Fredonia units 1 and 2; and WWP: Northeast units 1 and 2.
10. Renewables include: BPA: James River Wauna; Consumers: Coffin Butte; Emerald County PUD: Short Mountain; and WWP: Kettle Falls.
11. Cogeneration includes: EWEB: Weyerhaeuser's WEYCO Energy Center; Snohomish: County PUD Scott Paper; PGE: Coyote Springs; and PP&L: Hermiston. Longview Fibre output is sold outside the region to WAPA.
12. Regional imports include: Anaheim to BPA, exchange energy and peak replacement energy; Azusa to BPA, power exchange and peak replacement; Banning to BPA, power exchange and peak replacement; Basin Electric to BPA, power sale; BGP to BPA, supplemental energy; Burbank to BPA, exchange energy; Colton to BPA, power exchange and peak replacement; Glendale to BPA, exchange energy; other entities to BPA, power exchange; Pasadena to BPA, exchange energy, peak replacement energy, and seasonal replacement energy; PP&L (Wyoming Division) to BPA for Southern Idaho, power sale; Riverside to BPA, exchange energy, peak replacement energy, and seasonal exchange energy; Sierra Pacific to BPA for Harney and Wells; SCE to BPA, exchange energy, supplemental energy, environmental storage, option energy, and peak replacement; and PowerEx to BPA for ABC and Palo Alto, peak replacement energy; BC Hydro to PSE, power sale; BC Hydro to SCL, for Ross; Glendale to PGE, seasonal power exchange; NCPA to SCL, seasonal power exchange; PG&E to PSE, seasonal power exchange; PowerEx to Benton REA, power sale; PowerEx to Clearwater Power Company, power sale; PowerEx to EWEB, power sale; SCE to PP&L, power sale; and West Kootenai to AVC, peak replacement energy.

In addition, imports include the following intra-company transfers: PP&L (Wyoming) to PP&L, and Utah Power Company.

This analysis assumes that BPA's power sales and capacity/energy exchange agreements with the cities of Burbank, Glendale, Pasadena, Modesto, Santa Clara and Redding and with SCE are in power sale mode, so exchanges and supplemental energy with these utilities are zero through the study horizon.

13. Resource acquisitions are resources BPA has identified and contracted for future purchase. When new Federal resource acquisitions are contracted for and/or on-line, they will be included in the loads and resources balance.
14. Non-utility generation (NUG) resources include generation provided to utilities by independent power producers and resources included under the Public Utility Regulatory Policies Act (PURPA). This study included 180 Individual NUGs.
15. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are estimated at 5 percent of the capacity of these resources for all utilities in the region.
16. Large thermal reserve requirements are estimated at 15 percent of the total capacity of the Pacific Power and Light thermal import into the region plus the large thermal resources owned by utilities in the region.
17. Federal spinning reserves equal the reserve generating capacity maintained to provide a regulating margin for the automatic generation and frequency control of power generation.
18. Hydro maintenance is the sum of individual Federal system, public agency, and IOU hydro project maintenance, based on the average of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.
19. Extreme weather adjustment is the sum of all utility load responses with Pacific Northwest cold weather and has a 5 percent chance of being exceeded in the months of November through February.

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS										
1998 WHITE BOOK: 12/31/98										
OPERATING YEAR										
	1999-0	2000-1	2001-2	2002-3	2003-4	2004-5	2005-6	2006-7	2007-8	2008-9
MEGAWATTS	AVG									
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
LOADS										
1 FEDERAL AGENCIES	148	149	150	151	152	153	153	155	155	156
2 FEDERAL GPU TRANS LOSSES	61	62	28	25	24	24	22	20	19	19
3 FEDERAL NGP TRANS LOSSES	107	108	108	109	110	111	111	112	113	114
4 USBR	67	67	68	68	68	68	68	68	68	68
5 DSI FIRM LOAD	1884	1952	1952	1952	1952	1952	1952	1952	1952	1952
6 DSI FIRM LOSSES	53	55	55	55	55	55	55	55	55	55
7 SM & NON GEN PUB PURCH 1/	2128	2188	2264	2264	2264	2264	2264	2264	2264	2264
8 FIRM SYSTEM LOAD	4448	4582	4625	4624	4625	4627	4626	4626	4627	4629
TRANSFERS OUT										
9 EXPORTS 2/	1174	1263	1314	1239	1178	1060	1030	1009	935	848
10 CONTRACTS OUT 3/	2012	1379	1676	1807	1753	1759	1692	878	677	676
11 CSPE TO WEST GROUP UTIL 4/	102	98	94	61	0	0	0	0	0	0
12 GEN PUB AGEN PSC PURCH 5/	1315	1541	1578	1578	1578	1578	1578	1578	1578	1578
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0
14 FED DIVERSITY 7/	0	0	0	0	0	0	0	0	0	0
15 FIRM LOADS	9051	8862	9287	9309	9135	9023	8926	8091	7817	7731
HYDRO RESOURCES										
16 REGULATED HYDRO	6361	6361	6375	6382	6390	6397	6405	6412	6419	6422
17 INDEPENDENT HYDRO	379	379	393	394	394	394	394	394	394	394
18 SUS. PKNG. ADJUSTMENT 8/	0	0	0	0	0	0	0	0	0	0
19 NON-FED CER(CSPE) TO BPA 9/	23	22	21	14	0	0	0	0	0	0
20 NON-FED CER(CAN) TO BPA 10/	83	81	80	100	145	148	144	144	143	143
21 RESTORATION 11/	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
22 TOTAL HYDRO	6819	6817	6842	6865	6903	6914	6917	6925	6931	6934
OTHER RESOURCES										
23 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0
24 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0
25 RENEWABLES 12/	29	29	29	29	29	29	29	29	29	29
26 COGENERATION	0	0	0	0	0	0	0	0	0	0
27 IMPORTS 13/	327	308	299	299	299	192	192	192	192	190
28 CONTRACTS IN 14/	624	552	479	418	359	359	359	359	359	359
29 LARGE THERMAL 15/	885	875	1000	875	1000	875	1000	875	1000	875
30 NON-UTILITY GENERATION 16/	8	15	16	38	45	45	45	45	45	45
31 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0
32 TOTAL RESOURCES	8692	8596	8665	8524	8636	8415	8543	8425	8556	8432

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS										
1998 WHITE BOOK: 12/31/98										
OPERATING YEAR										
RUN DATE: 12/31/98										
MEGAWATTS	1999-0 AVG	2000-1 AVG	2001-2 AVG	2002-3 AVG	2003-4 AVG	2004-5 AVG	2005-6 AVG	2006-7 AVG	2007-8 AVG	2008-9 AVG
RESERVES & MAINTENANCE										
33 HYD SM THRM & MISC RES 18/	0	0	0	0	0	0	0	0	0	0
34 LARGE THERMAL RESERVES 19/	0	0	0	0	0	0	0	0	0	0
35 SPINNING RESERVES 20/	0	0	0	0	0	0	0	0	0	0
36 FEDERAL HYDRO MAINT 21/	0	0	0	0	0	0	0	0	0	0
37 NET RESOURCES	8692	8596	8665	8524	8636	8415	8543	8425	8556	8432
SURPLUS/DEFICITS										
38 FIRM SURPLUS/DEFICIT	-358	-266	-622	-785	-499	-609	-383	335	739	701
39 EXTREME WEATHER ADJ. 22/	0	0	0	0	0	0	0	0	0	0
40 FIRM S/D W/EXT WEATHER ADJ.	-358	-266	-622	-785	-499	-609	-383	335	739	701
41 POSS FED EXT WTHR. OBLG 23/	0	0	0	0	0	0	0	0	0	0
42 FIRM S/D W/EXT WTHR. OBLIG	-358	-266	-622	-785	-499	-609	-383	335	739	701

NOTE: 1. THE FOLLOWING CONTRACTS ARE SHOWN AS POWER SALES THROUGH THE STUDY HORIZON.

- A. BPA TO BURBANK: PS & C/N/X C. BPA TO PASADENA: PS & C/N/X
B. BPA TO GLENDALE: PS & C/N/X D. BPA TO SCE: PS & C/N/X

2. BPA TO PSP&L: PS & SPX CONVERTS TO A SEASONAL POWER EXCHANGE OY 2002.

3. SCE TO BPA: OPTION ENERGY IS INCLUDED THROUGH OY 2004.

4. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH OY 2004.

5. THE FOLLOWING CONTRACTS ARE RESOURCE OPTIONS AND NOT INCLUDED THROUGH THE STUDY HORIZON.

- A. BGP TO BPA: SUPPLEMENTAL ENERGY B. SCE TO BPA: SUPPLEMENTAL ENERGY

FEDERAL SYSTEM FOOTNOTES

Federal Table 2

1. BPA's small and nongenerating public agencies' purchases are requirements these agencies place on BPA under their power sales contracts and BPA's partnership program. BPA's obligation is each agency's net firm load requirement not served by its own dedicated resources. These contracts expire between June 30, 2001, and September 30, 2001; however, they are assumed to remain at the OY 2001 level through the study period.
2. BPA's exports include: BPA to Anaheim, capacity/energy exchange and capacity sale; BPA to Azusa, power exchange and capacity sale; BPA to Banning, power exchange and capacity sale; BPA to BART, power sale; BPA to Burbank, power sale and capacity/energy exchange; BPA to Colton, power exchange and capacity sale; BPA to Farmington, power sale; BPA to Federal agencies, power sale; BPA to Glendale, power sale and capacity/energy exchange; BPA to M-S-R, power sale; BPA to other entities, power sales; BPA to Palo Alto, capacity sale and seasonal energy exchange; BPA to Pasadena, power sale, capacity/energy exchange and seasonal energy exchange; BPA to Riverside, capacity/energy exchange, capacity sale and diversity exchange; BPA to SCE, power sale, capacity/energy exchange, environmental storage, and option capacity; BPA to SCE Source, power sale; BPA to BC Hydro for Canadian Entitlement; and BPA's Northwest-Southwest Intertie losses.
3. BPA's contracts out include: BPA to AVC, power sale, supplemental and entitlement capacity, deferred power exchange and WNP-3 settlement; BPA to Bandon, power sale; BPA to Big Bend Electric Cooperative, summer seasonal product; BPA to Central Electric Cooperative, summer seasonal product; BPA to Chelan County PUD, supplemental and entitlement capacity sale; BPA to the city of Ashland, power sale; BPA to the city of Idaho Falls, power sale; BPA to Colockum, supplemental and entitlement capacity; BPA to Columbia Basin Electric Cooperative, summer seasonal product; BPA to Columbia River PUD, power sale; BPA to Columbia Rural Electric Association, summer seasonal product; BPA to Cowlitz County PUD, supplemental and entitlement capacity and power sale; BPA to Douglas County PUD, supplemental and entitlement capacity and power sale; BPA to Eugene Water and Electric Board, supplemental and entitlement capacity and power sale; BPA to city of Forest Grove, supplemental and entitlement capacity and power sale; BPA to Grant County PUD, supplemental and entitlement capacity and power sale; BPA to Harney Electric Cooperative, summer seasonal product; BPA to Idaho Power Company for Harney and Wells; BPA to Inland Power and Light, summer seasonal product; BPA to Kittitas County PUD, supplemental and entitlement capacity; BPA to Lewis County PUD, power sale; BPA to Lower Valley, power sale; BPA to Mason County PUD #3, power sale; BPA to city of McMinnville, supplemental and entitlement capacity and power sale; BPA to Midstate Electric Cooperative, summer seasonal product; BPA to Milton-Freewater, power sale; BPA to Modern Electric Cooperative, power sale; BPA to Monmouth, power sale; BPA to Montana Power Company, capacity/energy exchange; BPA to Nespelem Valley Electric Cooperative, summer seasonal product; BPA to Northern Wasco Electric Cooperative, power sale; BPA to Okanogan, supplemental and entitlement capacity and summer seasonal product; BPA to other entities, power sales; BPA to small and nongenerating public agencies, summer seasonal product and power sales; BPA to PP&L, capacity sale, supplemental and entitlement capacity, Southern

Idaho exchange, and Centralia standby; BPA to PGE, capacity sale, supplemental and entitlement capacity, and power sale; BPA to PSE, Baker Head loss, power sale, supplemental and entitlement capacity and WNP-3 settlement; BPA to Ravalli Electric Cooperative, power sale; BPA to Richland, Ormet power sale; BPA to Salem Electric Cooperative, green power sale; BPA to SCL, supplemental and entitlement capacity sale; BPA to Snohomish County PUD, power sale; BPA to Springfield Utility Board, power sale; BPA to Surprise Valley, summer seasonal product; BPA to TPU, supplemental and entitlement capacity and power sale; BPA to Tillamook, power sale; BPA to United Electric Cooperative, power sale; BPA to Umatilla Electric Cooperative, summer seasonal product; BPA to Vigilante Electric Cooperative, summer seasonal product; BPA to Wasco Electric Cooperative, summer seasonal product; and BPA to Western Oregon Cooperative, power sale.

4. Columbia Storage Power Exchange (CSPE) is the sale of the Canadian share of downstream benefits under the Columbia River Treaty with Canada to a group of Northwest utilities, expiring April 1, 2003.
5. BPA's generating public agencies' purchases are requirements that these agencies place on BPA under their power sales contracts and BPA's partnership program. BPA's obligation is each agency's net firm load requirement not served by its own dedicated resources. These contracts expire between June 30, 2001, and September 30, 2001; however, they are assumed to remain at the OY 2001 level through the study period.
6. No investor-owned utility customers are purchasing power under the 1981 power sales contract.
7. Federal diversity is a percentage reduction applied to the Federal system non-coincidental peak utility requirements. This is due to the fact that all peaking electrical loads do not occur simultaneously throughout the region.
8. Sustained peaking adjustment is a percentage reduction applied to the Federal hydrosystem to meet a capacity load of 50 hours per week. This adjustment also includes reductions for Federal hydro maintenance, spinning reserves, forced outage reserves, and summer flow augmentation on the Snake River and John Day hydro projects.
9. Canadian Entitlement Return non-Federal to the Columbia River Storage Exchange (CSPE) reflects the public agencies' and IOUs' obligation of Canadian Entitlement allocation to the Northwest entities of the CSPE, which expires March 31, 2003.
10. Canadian Entitlement Return non-Federal to Canada reflects the Federal system, public agencies' and IOUs' obligation of Canadian Entitlement allocation to Canada, which began April 1, 1998.
11. Restoration adjustments for the losses and gains of the hydro system due to Canadian storage under the terms of the Pacific Northwest Coordination Agreement. It is an obligation to those utilities that gained generation from the addition of Canadian storage, and a resource gain to utilities that lost generation from Canadian storage.
12. Federal renewable resources include: James River Wauna.
13. BPA's imports include: Anaheim to BPA, exchange energy and peak replacement energy; Azusa to BPA, power exchange and peak replacement; Banning to BPA, power exchange and peak replacement; BGP to BPA, supplemental energy; Burbank to BPA, exchange energy; Colton to BPA, power exchange and peak replacement; Glendale to BPA, exchange energy; other entities to BPA, power exchange; Pasadena to BPA, exchange energy, peak replacement energy, and seasonal replacement energy; PP&L (Wyoming Division) to BPA for Southern Idaho, power sale; Riverside to BPA, exchange energy, peak replacement energy, diversity exchange energy, and seasonal exchange energy; Sierra to BPA for Harney and Wells; SCE to BPA, exchange energy, supplemental energy, environmental storage, option energy, peak replacement and power sale; and PowerEx to BPA for ABC and Palo Alto, peak replacement energy.

14. Federal contracts in include: AVC to BPA, supplemental entitlement peak replacement and WNP-3 settlement; Chelan County PUD to BPA, supplemental entitlement peak replacement; Colockum to BPA, supplemental entitlement peak replacement; Cowlitz County PUD to BPA, supplemental entitlement peak replacement; Douglas County PUD to BPA, supplemental entitlement peak replacement; Eugene Water and Electric Board to BPA, supplemental entitlement peak replacement; Grant County PUD to BPA, supplemental entitlement peak replacement; city of Forest Grove to BPA, supplemental entitlement peak replacement; Kittitas County PUD to BPA, supplemental entitlement peak replacement; city of McMinnville to BPA, supplemental entitlement peak replacement; MPC to BPA, exchange energy and peak replacement; Okanogan County PUD to BPA, supplemental entitlement peak replacement; other entities to BPA, supplemental entitlement peak replacement and power sale; PP&L to BPA, peak replacement and supplemental entitlement peak replacement; PGE to BPA, peak replacement and supplemental entitlement peak replacement; PSE to BPA, supplemental entitlement peak replacement and WNP-3 settlement; SCL to BPA, supplemental entitlement peak replacement; and TPU to BPA, supplemental entitlement peak replacement.
15. Federal large thermal includes the generation from WNP-2, operated by WPPSS.
16. Non-utility generation (NUG) resources include generation provided to BPA by independent power producers and resources included under the Public Utility Regulatory Policies Act (PURPA).
17. Resource acquisitions are resources BPA has identified and contracted for future purchase. When new Federal resource acquisitions are contracted for and/or on-line, they will be included in the loads and resources balance.
18. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are estimated at 5 percent of the Federal capacity of these resources.
19. Large thermal reserve requirements are estimated at 15 percent of the WNP-2 nuclear project.
20. Federal spinning reserve is the reserve generating capacity maintained to provide a regulating margin for the automatic generation and frequency control of power generation.
21. Hydro maintenance is the sum of all Federal hydro project maintenance based on the mean of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.

TABLE 3: TOTAL PUBLIC AGENCIES

SUMMARY OF PUBLIC AGENCIES LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS											
1998 WHITE BOOK: 12/31/98											
OPERATING YEAR											
RUN DATE: 12/31/98											
	1999- 0	2000- 1	2001- 2	2002- 3	2003- 4	2004- 5	2005- 6	2006- 7	2007- 8	2008- 9	
MEGAWATTS	AVG	AVG									
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
LOADS											
1 SYSTEM LOADS	7763	7808	7861	7915	7969	8023	8077	8132	8182	8236	
2 EXPORTS 1/	84	84	84	84	84	64	43	43	20	14	
3 CONTRACTS OUT 2/	212	213	168	162	143	129	130	129	129	130	
4 TOTAL LOADS	8060	8105	8113	8161	8195	8215	8250	8305	8332	8380	
RESOURCES											
5 REGULATED HYDRO	1723	1736	1750	1762	1774	1785	1919	1960	1959	1959	
6 INDEPENDENT HYDRO	137	137	137	137	137	137	137	137	137	137	
7 CAN. ENT. RETURN (CSPE) 3/	-7	-7	-7	-5	0	0	0	0	0	0	
8 CAN. ENT. RETURN (CANADA)4/	-30	-31	-31	-39	-58	-58	-67	-70	-70	-70	
9 RESTORATION 5/	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	
10 TOTAL HYDRO	1820	1832	1846	1852	1850	1861	1986	2024	2023	2023	
11 SMALL THERMAL & MISC 6/	3	3	3	3	3	3	3	3	3	3	
12 COMBUSTION TURBINES 7/	242	242	238	240	241	237	240	241	237	240	
13 CSPE PURCHASE 8/	51	49	47	31	0	0	0	0	0	0	
14 RENEWABLES 9/	6	6	6	6	6	6	6	6	6	6	
15 COGENERATION 10/	14	14	14	14	14	14	14	14	14	14	
16 IMPORTS 11/	109	109	77	68	51	48	48	48	48	48	
17 CONTRACTS IN 12/	1120	965	945	993	973	970	960	324	211	210	
18 LARGE THERMAL 13/	336	336	336	336	330	330	336	336	336	336	
19 NON-UTILITY GENERATION 14/	150	150	150	150	150	150	147	144	144	144	
20 TOTAL RESOURCES	3851	3706	3661	3693	3617	3619	3740	3140	3022	3025	
21 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0	
22 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0	
23 PUBLIC HYDRO MAINT 17/	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	
24 NET RESOURCES	3849	3703	3659	3690	3614	3616	3737	3138	3020	3022	
25 SURPLUS/DEFICIT	-4211	-4402	-4454	-4471	-4581	-4599	-4512	-5167	-5312	-5357	
26 BPA PSC DIVERSIFICATION 18/	1169	1123	974	974	974	974	974	974	974	974	
27 DEDICATED RESOURCES 19/	3122	2970	3187	3248	3198	3208	3125	2522	2439	2447	
28 BPA PWR SALE CNTRCT PUR 20/	3443	3729	3842	3842	3842	3842	3842	3842	3842	3842	
29 SURPLUS/DEFICIT W/PURCHASE	-768	-673	-612	-628	-739	-757	-670	-1325	-1470	-1515	
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	0	0	0	0	0	0	
31 SURPLUS/DEFICIT W/EXTRM WX	-768	-673	-612	-628	-739	-757	-670	-1325	-1470	-1515	
32 POSSIBLE OBLIG ON BPA 22/	0	0	0	0	0	0	0	0	0	0	
33 SURPLUS/DEFICIT AFTR BPA OB	-768	-673	-612	-628	-739	-757	-670	-1325	-1470	-1515	

PUBLIC AGENCIES FOOTNOTES

Total Public Agencies Table 3

1. Public agencies' exports include: AVC to Modesto, power sale; AVC to West Kootenai, capacity sale; the city of Idaho Falls to Utah Power Company, Gem State Hydro; SCL to NCPA, seasonal power exchange; Snohomish County PUD to SMUD, power sale; and TPU to WAPA, power sale.
2. Public agencies' contracts out include: Chelan County PUD to BPA, supplemental and entitlement replacement; Chelan County PUD to PGE, capacity/energy exchange; Colockum to BPA, supplemental and entitlement replacement; Colockum to PP&L, capacity/energy exchange; Cowlitz County PUD to BPA, supplemental and entitlement replacement; Douglas County PUD to BPA, supplemental and entitlement replacement; EWEB to BPA, supplemental and entitlement replacement; EWEB to PGE, capacity sale; city of Forest Grove to BPA, supplemental and entitlement replacement; Grant County PUD to BPA, supplemental and entitlement replacement; Grant County PUD to PP&L, power sale; Grays Harbor PUD to PSE, Centralia exchange; Kittitas County PUD to BPA, supplemental and entitlement replacement; Lewis County PUD to PSE, power sale; Mason County PUD #3 to PSE, power sale; city of McMinnville to BPA, supplemental and entitlement replacement; Northern Wasco PUD to PSE, power sale; Okanogan County PUD to BPA, supplemental and entitlement replacement; PNGC to PGE, peak replacement; Pend Oreille to Ponderay Mill, power sale; Pend Oreille to SCL, power sale; SCL to BPA, supplemental and entitlement replacement; SCL to IPC, seasonal power exchange; SCL to Pend Oreille, power sale; SCL to TPU, energy sale; Snohomish County PUD to PSE, power sale; TPU to BPA, supplemental and entitlement replacement; and TPU to SCL, energy sale.
3. Canadian Entitlement Return non-Federal to the Columbia River Power Exchange (CSPE) reflects the public agencies' obligation of Canadian Entitlement allocation to CSPE, which expires April 1, 2003.
4. Canadian Entitlement Return non-Federal to Canada reflects the public agencies' obligation of Canadian Entitlement allocation to Canada, which begins April 1, 1998.
5. Restoration is the obligation of the public agencies that gained generation from the addition of Canadian storage to utilities that lost generation from it, according to the terms of the Pacific Northwest Coordination Agreement.
6. Public agencies' small thermal and miscellaneous resources include: TPU: Steam Plant No. 2; and SCL: Boundary.
7. Public agencies' combustion turbines include: Clark County PUD: River Road (Cogentrix).
8. Columbia Storage Power Exchange (CSPE) is the sale to Northwest utilities through April 1, 2003, of the Canadian share of downstream benefits under the Treaty with Canada.
9. Public agencies' renewable resources include: Emerald PUD: Short Mountain; and Consumers Power Incorporated: Coffin Butte.
10. Public agencies' cogeneration includes: EWEB: Weyerhaeuser's WEYCO Energy Center; and Snohomish County PUD: Scott Paper.

11. Public agencies' imports include: BC Hydro to SCL, Ross replacement; PowerEx to EWEB, power sale; and NCPA to SCL, seasonal power exchange.
12. Public agencies' contracts in include: AVC to the city of Cheney, Washington, power sale; AVC to Clark Public Utilities, power sale; AVC to EWEB, power sale; AVC to other entities, power sale; AVC to Pend Oreille, power sale; AVC to Snohomish County PUD, power sale; BPA to Bandon power sale; BPA to Big Bend Electric, summer seasonal product; BPA to Central Electric Cooperative, summer seasonal product; BPA to Chelan, supplemental and entitlement capacity; BPA to city of Ashland, power sale; BPA to city of Idaho Falls, power sale; BPA to Colockum, supplemental and entitlement capacity; BPA to Columbia Basin Electric Cooperative, summer seasonal product; BPA to Columbia River PUD, power sale; BPA to Columbia Rural Electric Cooperative, summer seasonal product; BPA to Cowlitz County PUD, power sale and supplemental and entitlement capacity; BPA to Douglas County PUD, power sale and supplemental and entitlement capacity; BPA to EWEB, power sale and supplemental and entitlement capacity; BPA to city of Forest Grove, power sale and supplemental and entitlement capacity; BPA to Grant County PUD, power sale and supplemental and entitlement capacity; BPA to Harney Electric Cooperative, summer seasonal product; BPA to Inland Power and Light, summer seasonal product; BPA to Kittitas, supplemental and entitlement capacity; BPA to Lewis County PUD, power sale; BPA to Lower Valley, power sale; BPA to Mason County PUD #3, power sale; BPA to city of McMinnville, power sale and supplemental and entitlement capacity; BPA to Midstate Electric Cooperative, summer seasonal product; BPA to city of Milton-Freewater, power sale; BPA to Modern Electric Cooperative, power sale; BPA to Monmouth, power sale; BPA to Nespelem Valley, summer seasonal product; BPA to Northern Wasco PUD, power sale; BPA to Okanogan, summer seasonal product and supplemental and entitlement capacity; BPA to other entities, power sales; BPA to Ravalli County Electric Cooperative, power sale; BPA to Richland, Ormet power sale; BPA to Salem Electric Cooperative, power sale; BPA to SCL, supplemental and entitlement capacity; BPA to small and nongenerating public agencies, summer seasonal product and power sales including Hungry Horse power sale; BPA to Snohomish County PUD, power sale; BPA to Springfield Utility Board, power sale; BPA to Surprise Valley Electric Corporation, summer seasonal product; BPA to Tillamook, power sale; BPA to TPU, power sale and supplemental and entitlement capacity; BPA to United Electric Cooperative, power sale; BPA to Umatilla Electric Cooperative, summer seasonal product; BPA to Vigilante Electric Cooperative, summer seasonal product; BPA to Wasco County Electric Cooperative, summer seasonal product; BPA to Western Oregon Electric Cooperative, power sale; IPC to Oregon Trail Cooperative, power sale; IPC to city of Richland, power sale; IPC to SCL, seasonal power exchange; Northern Wasco County PUD to PSE, power sale; other entities to EWEB, power sale; PP&L to Colockum, exchange energy and peak replacement; PP&L to Springfield Utility Board, power sale; Pend Oreille to Pondaray Mill, power sale; Pend Oreille to SCL, power sale; PGE to Canby, power sale; PGE to Chelan County PUD, exchange energy and peak replacement; PGE to Clallam, power sale; PGE to EWEB, power sale; PGE to PNGC, capacity sale; PGE to Snohomish County PUD, power sale; PSE to Grays Harbor PUD, Centralia exchange; SCL to Pend Oreille, power sale; SCL to TPU, energy sale; and TPU to SCL, energy sale.
13. Public agencies' large thermal includes: Grays Harbor PUD, SCL, Snohomish County PUD, and TPU shares of Centralia.
14. Public agencies' non-utility generating resources are from independent power producers, power brokers, and qualified facilities under the Public Utilities Regulatory Act (PURPA).

These resources are summarized for the following public agencies: Chelan County PUD, Cowlitz County PUD, Douglas County PUD, Eugene Water and Electric Board, Grant County PUD, Pend Oreille County PUD, Seattle City Light, Small and Non-Generating Utilities, Snohomish County PUD, and Tacoma Public Utilities.

15. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are 5 percent of the public agencies' share of capacity from these resources.
16. Large thermal reserve requirements are 15 percent of the public agencies' share of Pacific Northwest thermal resources.
17. Hydro maintenance is the sum of all public agency hydro project maintenance based on the mean of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.
18. This study reflects load diversification for the public agencies from BPA's Load Commitment Exercise. This reduces each utility's power sales contract purchase from BPA.
19. BPA Power Sales Contract Diversification is the amount of resource a utility could add to serve its own load as part of BPA's Load Commitment exercise.
20. Dedicated resources are the actual resources used in the operating year prior to the signing of the Pacific Northwest Electric Power Planning and Conservation Act (Public Law 96-501) and other resources the utility dedicates to serve its load.
21. Purchases from BPA include public agencies' firm power purchases under their power sales contracts and BPA's partnership program. This requirement is defined as the sum of the differences between each utility's firm load and its dedicated resources.
22. Extreme Weather adjustment for all public utilities for severe cold weather in the months of November through February.
23. Possible extreme weather adjustment obligation on BPA for those public utilities having the right to place the obligation on BPA.

TABLE 4: TOTAL INVESTOR-OWNED UTILITIES

SUMMARY OF INVESTOR-OWNED UTILITIES LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS										
1998 WHITE BOOK: 12/31/98										
OPERATING YEAR										
RUN DATE: 12/31/98										
	1999-0	2000-1	2001-2	2002-3	2003-4	2004-5	2005-6	2006-7	2007-8	2008-9
MEGAWATTS	AVG									
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
LOADS										
1 SYSTEM LOADS	10126	10185	10249	10329	10419	10523	10588	10699	10846	10965
2 EXPORTS 1/	570	514	517	515	486	402	284	242	211	190
3 CONTRACTS OUT 2/	1990	1839	926	828	628	584	584	543	534	533
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4 TOTAL LOADS	12686	12539	11693	11672	11534	11509	11457	11484	11591	11689
RESOURCES										
5 REGULATED HYDRO	2537	2524	2505	2493	2481	2470	2336	2295	2296	2296
6 INDEPENDENT HYDRO	589	589	578	577	578	577	577	577	577	578
7 CAN. ENT. RETURN (CSPE) 3/	-14	-13	-12	-8	0	0	0	0	0	0
8 CAN. ENT. RETURN (CANADA)4/	-47	-45	-44	-55	-78	-81	-68	-65	-64	-64
9 RESTORATION 5/	30	30	30	30	30	30	30	30	30	30
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10 TOTAL HYDRO	3095	3084	3058	3037	3010	2996	2875	2838	2839	2840
11 SMALL THERMAL & MISC 6/	75	75	71	71	71	71	71	71	71	71
12 COMBUSTION TURBINES 7/	512	512	512	512	512	512	512	512	512	512
13 CSPE PURCHASE 8/	50	49	47	31	0	0	0	0	0	0
14 RENEWABLES 9/	41	41	41	41	41	41	41	41	41	41
15 COGENERATION 10/	625	625	625	625	625	625	625	625	625	625
16 IMPORTS 11/	1278	1269	1189	1216	1181	1081	1083	1088	988	990
17 CONTRACTS IN 12/	2079	1743	1002	932	759	709	709	709	709	707
18 LARGE THERMAL 13/	3549	3548	3539	3540	3509	3516	3528	3533	3536	3541
19 NON-UTILITY GENERATION 14/	898	898	865	840	840	837	832	832	832	832
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
20 TOTAL RESOURCES	12203	11842	10949	10843	10548	10387	10275	10247	10153	10159
21 HYD SM THRM & MISC RES 15/	0	0	0	0	0	0	0	0	0	0
22 LARGE THERMAL RESERVES 16/	0	0	0	0	0	0	0	0	0	0
23 IOU HYDRO MAINTENANCE 17/	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
24 NET RESOURCES	12193	11833	10939	10833	10538	10378	10265	10238	10143	10150
25 SURPLUS/DEFICIT	-493	-706	-754	-838	-995	-1131	-1192	-1246	-1448	-1539
26 BPA PSC DIVERSIFICATION 18/	0	0	0	0	0	0	0	0	0	0
27 DEDICATED RESOURCES 19/	7047	7070	7010	6999	6928	6872	6764	6734	6657	6687
28 BPA PWR SALE CNTRCT PUR 20/	0	0	0	0	0	0	0	0	0	0
29 SURPLUS/DEFICIT W/PURCHASE	-493	-706	-754	-838	-995	-1131	-1192	-1246	-1448	-1539
30 EXTREME WEATHER ADJ. 21/	0	0	0	0	0	0	0	0	0	0
31 SURPLUS/DEFICIT W/EXTRM WX	-493	-706	-754	-838	-995	-1131	-1192	-1246	-1448	-1539

PRIVATE UTILITIES FOOTNOTES

Total Private Utilities Table 4

1. Private utilities' exports include: IPC to City of Washington, Utah, power sale; IPC to Sierra Pacific, power sale and for Harney and Wells; IPC to Truckee/Donner, power sale; IPC to UAMPS, power sale; PP&L to CDWR, power sale; PP&L to PP&L (Northern California), transfer to PP&L's Northern California load; PP&L to City of Redding, power sale; PP&L to SCE, power sale; PP&L to SMUD, power sale; PP&L to WAPA, power sale; PGE to Glendale, power sale and seasonal power exchange; and PSE to PG&E, seasonal power exchange.
2. Private utilities' contracts out include: AVC to BPA, supplemental and entitlement replacement and WNP-3 settlement; AVC to City of Cheney, Washington, power sale; AVC to Clark Public Utilities, power sale; AVC to EWEB, power sale; AVC to MPC, power sale; AVC to other entities, power sale; AVC to PP&L, power sale and seasonal power exchange; AVC to Pend Oreille, power sale; AVC to PGE, capacity sale; AVC to PSE, power sale; AVC to Snohomish County PUD, power sale; IPC to AVC, power sale; IPC to Energy Services, power sale; IPC to Oregon Trail, power sale; IPC to PGE, power sale; IPC to MPC, seasonal power exchange; IPC to City of Richland, power sale; IPC to SCL, seasonal power exchange; MPC to BPA, exchange energy and peak replacement; MPC to IPC, seasonal power exchange; MPC to PSE, power sale; other entities to AVC, power sale; other entities to BPA, power sale; other entities to EWEB, power sale; other entities to PGE, power sale; PGE to BPA, supplemental and entitlement replacement; PP&L to AVC, seasonal power exchange; PP&L to BPA, supplemental and entitlement replacement and peak replacement; PP&L to Colockum, exchange energy and peak replacement; PP&L to PSE, power sale; PP&L to small, nongenerating utilities, power sales; PP&L to Springfield Utility Board, power sale; PGE to AVC, peak replacement; PGE to BPA, peak replacement; PGE to Canby, power sale; PGE to Chelan, exchange energy and peak replacement; PGE to Clallam, power sale; PGE to EWEB, power sale; PGE to PNGC, capacity sale; PGE to PP&L, Cove replacement; PGE to Snohomish County PUD, power sale; PSE to AVC, power sale; PSE to BPA, supplemental and entitlement replacement and WNP-3 settlement; PSE to Grays Harbor PUD, Centralia exchange.
3. Canadian Entitlement Return non-Federal to the Columbia River Power Exchange (CSPE) reflects the private utilities' obligation of Canadian Entitlement allocation to CSPE, which expires April 1, 2003.
4. Canadian Entitlement Return non-Federal to Canada reflects the private utilities' obligation of Canadian Entitlement allocation to Canada, which begins April 1, 1998.
5. Restoration is the obligation of the private utilities that gained generation from the addition of Canadian storage to utilities that lost generation from it, according to the terms of the Pacific Northwest Coordination Agreement.
6. Private utilities' existing small thermal and miscellaneous resources include: IPC: Energy Management Systems; PSE: Shuffleton and Crystal Mountain; PGE: Summit plants 1 and 2; and MPC: portions of Bird and Corette in the region.

7. Private utilities' combustion turbines include: IPC: Wood River; PGE: Bethel and Beaver; PSE: Whidbey Island, Whitehorn, Fredrickson, and Fredonia 1 and 2; and WWP: Northeast units 1 and 2.
8. Columbia Storage Power Exchange (CSPE) is the sale to Northwest utilities through April 1, 2003, of the Canadian share of downstream benefits under the Treaty with Canada.
9. Private utilities' renewable resources include WWP: Kettle Falls.
10. Private utility cogeneration resources include PGE: Coyote Springs; and PP&L, Hermiston.
11. Private utilities' imports include: BC Hydro to PSE, power sale; SCE to PP&L, power sale; Glendale to PGE, seasonal power exchange; PG&E to PSE, seasonal power exchange; PP&L Wyoming division to PP&L, intra-company transfer, and Utah Power Company import for their load within the region.
12. Private utilities' contracts in include: AVC to MPC, power sale; AVC to PP&L, power sale and seasonal power exchange; AVC to PGE, capacity sale; AVC to PSE, power sale; BPA to AVC, power sale, deferred power exchange, supplemental and entitlement capacity, and WNP-3 settlement; BPA to IPC, for Harney and Wells; BPA to MPC, capacity/energy exchange; BPA to PP&L, capacity sale, Southern Idaho exchange, supplemental and entitlement capacity, and Centralia standby; BPA to PGE, capacity sale, supplemental and entitlement capacity, and power sale; BPA to PSE, supplemental and entitlement capacity, power sale, Baker Head loss, and WNP-3 settlement; Chelan to PGE, capacity/energy exchange; Colockum to PP&L, capacity/energy exchange; EWEB to PGE, capacity sale; Grant to PP&L, power sale; Grays Harbor to PSE, Centralia exchange; IPC to AVC, power sale; IPC to Energy Service, power sale; IPC to MPC, seasonal power exchange; IPC to PGE, power sale; Lewis County PUD to PSE, power sale; Mason County PUD #3 to PSE, power sale; Northern Wasco County PUD to PSE, power sale; MPC to IPC, seasonal power exchange; MPC to PSE, power sale; other entities to AVC, power sale; other entities to PGE, power sale; PGE to PP&L, Cove replacement; SCL to IPC, seasonal power exchange; and Snohomish County PUD to PSE, power sale.
13. Private utilities' large thermal includes the private utilities' shares of Centralia, Jim Bridger, Colstrip 1 and 2, Colstrip 3 and 4, Boardman Coal, and Valmy.
14. Private utilities' non-utility generating resources from independent power producers, power brokers, and qualifying facilities under the Public Utilities Regulatory Act (PURPA). These resources are summarized for the following private utilities: Idaho Power Company, Montana Power Company, Pacific Power and Light, Portland General Electric, Puget Sound Power and Light, and Washington Water Power.
15. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are 5 percent of the private utilities' share in the capacity of these resources.
16. Large thermal reserve requirements are 15 percent of the private utilities' share of Pacific Northwest thermal resources and the Pacific Power and Light import from Wyoming.
17. Hydro maintenance is the sum of all private utility hydro project maintenance based on the mean of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.

18. BPA Power Sales Contract Diversification is the amount of resource a utility could add to serve its own load as part of BPA's Load Commitment exercise. For this study, no IOU diversification from the existing power sales contract is assumed.
19. Dedicated resources are the actual resources used in the operating year prior to the signing of the Pacific Northwest Electric Power Planning and Conservation Act (Public Law 96-501) and other resources the utility dedicates to serve its load.
20. Purchases from BPA include the private utilities' contracted firm energy or firm capacity purchases under their power sales contracts and BPA's partnership program. Currently, no IOU places load on BPA through a power sales contract.
21. Extreme weather adjustment for all private utilities for severe cold weather in the months of November through February.